

## REMARKS

Reconsideration of the application is respectfully requested based on the following remarks.

In the Office Action, the Examiner rejected claims 105-109, 111-115 and 117-121. Claims 105-109, 111-115 and 117-121 are pending.

### CLAIM REJECTIONS UNDER 35 USC §102

In the Office Action, the Examiner rejected claims 105-109 and 111 under 35 U.S.C. 102(e) as clearly anticipated by Taylor et al. (USP 6,682,893). Applicant respectfully disagrees.

Examiner stated, “Taylor et al. teach a fiber optic connected to a gel matrix that is impregnated with reagent. Paragraph [043] teach the gel matrix includes glucose oxidase and has read on the claimed ‘oxidase/peroxidase enzymes’.” Applicant respectfully disagrees that Taylor teaches Applicant’s invention. It is well understood that “gel” matrix is a soft jelly material in which a porous network of interconnected small particles spans the volume of a liquid medium. Gels are defined as a substantially dilute cross-linked system containing up to 99% liquid or water. In Applicant’s invention, it teaches a dry reagent test tip system: “...**a reagent pad comprising a flat membrane material impregnated with a dried reagent solution that comprises oxidase/peroxidase enzymes...**” If Taylor’s teaching is implemented in Applicant’s invention, the gel matrix will dry up and collapsed instantly. Then Taylor’s system will not possess any of the functionalities and benefits claimed in Applicant’s pending application.

Examiner stated, “Paragraphs [84+] teach the gel is attached to a ‘tape’ and associated with a machine readable indicia and has been read on the claimed ‘bonding’.” Applicant believes that the “tape” here is just a supporting material for casting the gel matrix and not a “adhesive tape”; it does not have “bonding” function since gel matrix inherently adheres to any surfaces due to its jelly nature.

Examiner stated, "Paragraph [101] teaches the gel matrix is attached to an optical fiber or fiber optic rod and has been read on claimed 'optical fiber.' Paragraph [129] teaches the gel pads can be deposited in an array on the optical fiber and have diameter of less than 500 microns in diameter. The teaching of the 'diameter' has been read on the gel matrix being circular in shape when deposited on the end of the optical fiber." As shown in Figs 1, 4, and 5 of Taylor's patent, gel matrix can only work in chunks or patches to maintain a steady state due to its soft and jelly nature. When it is deposited on the end of an optical fiber, it only can be done on a bundle or array of glass fibers. A diameter of less than 500 micron single fiber will not be possible to make a stable gel matrix to perform the functions as described in Applicant's invention.

Examiner stated, "Paragraph [149] teaches using the gel matrix with glucose oxidase to detect glucose. Paragraphs [152-155] teach attachment of the gel to the optical matrix to the optical fiber by various methods that include 3 hydrophilic/hydrophobic interactions. The claim language '...wherein said first and second ends are polished...' is not specific to the intended physical alterations of the tip and is sufficiently broad to have been properly read on Taylor et al. A taught optical fiber is inherently associated with a photometrical detector because why else would an optical fiber be used and how else could the results obtained." Taylor's gel matrix is a "wet" system containing up to 99% liquid or water. Also as stated several times in Taylor's patent, "Liquefying" gel matrix is one of the advantages and requirements for the system to work properly. Applicant invention is a "dried reagent" tip system. "Liquefying the dried reagent tips is detrimental to the functions of the invention. The manufacturing process and physical structure bear no resemblance by these two systems. Functionally, even glucose oxidase is incorporated into the gel matrix, it will not be possible for Taylor's system to detect blood glucose with a colorimetric meter from blood samples as claimed in Applicant's invention since the red color of blood will overwhelm the detection signal of the gel matrix due to its porous nature and deliver erroneous results, while Applicant's test tips can block or minimize the red color interference by the tip's membrane filtration function.

In the Office Action, the Examiner rejected claims 112-115 and 117-121 under

35 U.S.C. 102(b) as being clearly anticipated by Garcia et al. (USP 4,637,403).

Applicant respectfully disagrees.

Examiner stated, “Garcia et al. teach a personal glucose detector that is in the shape of a pen and has LCD display for glucose concentrations. The device (30) comprises an outer housing (32) and a core portion (34) disposed within the housing. An optical measurement means (50) comprises a phototransistor (52) connected to the appropriate electronics to quantify the blood glucose level are all with the housing (32). A reagent strip (94) is within the housing (32) and is in contact with need (90) to receive a blood sample. Column 8 lines 28-33 teach the glucose is quantified colorimetrically and/or photometrically and/or conductivity/impedance. The claimed ‘ball point pen shaped housing’ has been read on the taught device (30). The claimed ‘photometrical detector’ has been read on the taught optical measurement means (50). The claimed display has been read on the taught LCD display. The claimed ‘optical probe’ has been read on the depiction of the connected electronics in figure 5. The claimed ‘clip’ and ‘button’ on the taught clip (16) and button (36). The claimed ‘microtube’ has been read on the taught needle (90). The claimed ‘reagent pad’ has been read on the taught strip (94).” Garcia pen-shaped device is mainly designed and used to create a vacuum to draw blood from a finger. To transport the blood to the detection area, a wick has to be used. However, Applicant’s invention neither needs a vacuum nor uses wicks to draw and transfer blood. A major novelty of the current invention is to use test tips to minimize blood volume usage for minimally invasive blood glucose monitoring while Garcia uses test strip which is impossible to achieve minimally invasive blood glucose detection. The sample measurement of Garcia’s system is taken place inside the housing, while Applicant invention conveniently measures the sample outside of the housing. All the complicated teachings in Garcia patent are unnecessary in Applicant invention. Therefore, Garcia patent does not teach any of these new aspects of the current invention.

In view of the foregoing discussion all objections and rejections are believed overcome, and Applicant respectfully requests that all rejections be withdrawn and pending claims 105-109, 111-115 and 117-121 be allowed.

### **CONCLUSION**

It is submitted that cited references, alone or in any combination, do not teach, suggest or motivate one of ordinary skill in the art to produce Applicant's novel test tip device. Therefore, it is submitted that claims 105-109, 111-115 and 117-121 are patentably distinct from the cited references. Reconsideration of the application and a Notice of Allowance are earnestly solicited.

Respectfully submitted,

Tom Xu  
Applicant  
August 19, 2009.

A handwritten signature in black ink, appearing to read 'Tom Xu', written over a horizontal line.